

A Retrospective View of the Institute of Human Relations at Yale

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The story of the Institute of Human Relations, told in four main sections:

- (1) *Why it was organized;*
- (2) *Organization and administration;*
- (3) *Development of an interdisciplinary program;*
- (4) *Major accomplishments.*

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Why the Institute Was Organized

The Institute of Human Relations was organized in 1929 as one part of a larger plan for coordinating the educational resources of Yale University. This plan had as its objectives the further development and closer integration of all the teaching and research at Yale that pertained to the study of man. It envisaged the establishment of a large center for professional education, research, and community service, including the Schools of Medicine, Law, and Nursing; the biological and social science departments of the Graduate School; and the New Haven Hospital.

The Institute was conceived as the research center. Its main tasks were to promote cooperative research on problems of human welfare and to develop a unified science of individual and

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social behavior as a foundation for the more effective training of physicians, lawyers, ministers, nurses, teachers, and research workers. In the words of President Angell (1930: 5):

The Institute is designed to achieve two principal ends: first, to carry on research upon the basic problems of human nature and the social order; and second, to train a skilled personnel for work in these fields.

Professional schools strive to give their students a clear and usable understanding of the materials and problems of their respective fields, as well as the practical skills needed for diagnosis and treatment. In medicine, these basic understandings are derived in large part from the biological sciences; in law, from the social sciences; and in engineering, from the physical sciences. Until 1929, an important element of the foundations of these and other professions had been missing—namely, the part that gives a systematic and basic understanding of human behavior, social life, and culture. From its beginning, the Institute was dedicated to the proposition that the better a problem is understood, the more easily it is solved. Organized knowledge produces better understandings than do isolated facts.

When the Institute was first announced, a great deal was said about its work being problem-oriented rather than discipline-oriented. During its early years (1930-35), the Directors of the Institute entertained and acted upon a plausible but erroneous belief, which still persists in some quarters, that the surest road to the solution of large social problems is by frontal attacks by the combined intellectual resources and talents of a great university. So, the Institute started off with interdisciplinary studies of juvenile delinquency, automobile accidents, unemployment, the administration of justice, mental health, and residential mobility.

Organization and Administration

The Organizational Plan

The organizational plan of the Institute was designed to encourage and foster cooperative research and teaching, and at the same time to preserve traditional academic liberties. An

effort was made to fit the Institute into the existing structure of the University with a minimum of friction or disturbance. Participation was entirely voluntary. No attempt was made by administrative officers to coerce individuals or groups to modify their research plans or to follow a blueprint, even though the work was supported by Institute funds. The role of the administration was primarily one of creating working conditions under which the development of a coordinated program would be natural and easy.

It was understood from the outset that the Institute would not be a school, department, or division of the University, but a research center open to all who were interested in its purposes and who were deemed competent by the Executive Committee to contribute to its work. It was conceived as a *voluntary association* of individuals from various schools and departments of the University. Each held his appointment in a department or school, and all salaries (except those of the junior research staff) were carried on departmental budgets. All promotions were on departmental recommendations, and all titles were approved by departments.

The Strengthening of Relevant Departments

As a voluntary association of scientists, the Institute did not threaten the splitting up or disruption of any school or department. On the contrary, an effort was made by the Institute in cooperation with the University to strengthen some of them. Even before the Rockefeller Foundation grants were received, steps had been taken to strengthen the faculties of the Schools of Law and Medicine and to build up the social and biological science departments of the Graduate School.

A major section in the plan was the creation of a strong Department of Psychiatry and Mental Hygiene, which would serve not only the School of Medicine but also other professional schools, and which, it was hoped, would constitute a center for research. Dr. Eugen Kahn was appointed Sterling Professor and head of the Department. Dr. Clement Fry, psychiatrist of the University Department of Health, was made a member of the Department. Dr. E. Van Emery was appointed to develop mental

hygiene activities in the community, Dr. Marian Putnam to work with children, Dr. Edwin Gildea to head a laboratory for the study of metabolisms in relation to emotional reactions, Dr. Walter Miles to organize a laboratory of physiological psychology as Professor of Psychiatry, and Dr. Catherine Miles, Clinical Professor of Psychology, to work on problems of psychological testing. In Physiology, Dr. J. F. Fulton was appointed Sterling Professor and head of the department, and Dr. J. F. Dusser de Barrene was invited to organize a laboratory of neuro-physiology. Dr. Harold Burr was made head of Neuro-Anatomy, with a laboratory and staff. Dr. Harry Zimmerman was appointed in Pathology, Dr. Barbour in Pharmacology, and later, Dr. Edgar Allen, an endocrinologist, was appointed Chairman of the Department of Anatomy.

At the time the Institute was organized, Yale had seven psychologists with the rank of full professor. They were: R. P. Angier, Raymond Dodge, Arnold Gesell, C. L. Hull, M. A. May, E. S. Robinson, and R. M. Yerkes. In 1930, Professors Walter and Catherine Miles were appointed and assigned to the Department of Psychiatry.

The School of Law had on its faculty at that time two distinguished social scientists who were not lawyers. They were Professor Walton Hamilton (economist) and Professor W. F. Dodd (political scientist). Concurrent with the organization of the Institute, Underhill Moore was appointed Sterling Professor; Dorothy Thomas, Research Associate in Law and Sociology; and W. O. Douglas, Associate Professor of Law.

A number of major appointments were made in the Social Science Departments just before or just after the Institute was established. Among them were: Nicholas Spykman and J. H. Rogers (Political Science), Elliot Smith (Industrial Relations), Hudson Hastings (Applied Economics), Clark Wissler (Anthropology), and Edward Sapir (Anthropology).

The Divinity School appointed Professor Hugh Hartshorne (Psychology of Religion), who became active in the work of the Institute during its early years.

In addition to these major appointments, several staff members

of junior grade were added from time to time who devoted full or part time to research at the Institute.

The Research Staff

In April 1929, the Yale Corporation defined a member of the Institute as one who was giving all or an appreciable amount of his time to the work of the Institute. In May of that year, President Angell sent out letters to each of a dozen or so men within the University, inviting them to become members of a provisional staff. Two years later, the first bulletin of the Institute (1931-32) listed the names of 131 persons who, at the time, were regarded as officially connected with the Institute or were engaged in research that was considered a part of or affiliated with the work of the Institute.

In the years that immediately followed, before a coordinated program began to take shape, it was deemed desirable to consider as members of the Institute all individuals who were doing research in the biological and social sciences. On several occasions, the Executive Committee of Yale University gave consideration to a number of proposals for designating members of the staff by title. This was never done, primarily because it was believed that the purposes of the Institute would best be served by an informal association of individuals among whom there were certain to be wide variations in degree and kind of participation. It was felt that the personnel should remain undefined and that individuals should be permitted to come and go at will and decide for themselves whether they wished to be identified with the Institute's program. The report of the Director for the years 1937-39 lists the names of seventy-two individuals from fourteen University departments whose work was at that time supported in whole or in part by Institute funds.

The laudable plan of making the Institute an informal, voluntary association of scientists, with a fluid membership, was not without its disadvantages, however, particularly in the early years. Feelings of identification with the Institute were slow to develop, except in the cases of some who were brought to Yale for full-time research and who received courtesy appointments

in departments at the request of the administrative officers of the Institute. Regular teaching members of departments who came in on departmental invitation and recommendation but who received research funds from the Institute were inclined to feel more closely identified with their departments than with the Institute. The lines between departmental and Institute interests were never sharply drawn. Many individuals were quite uncertain as to whether or not they belonged to the Institute group and whether to mention its name on their publications.

These disadvantages were in some measure responsible for the delay in getting started, but they never seemed serious enough to offset the value inherent in the original plan of organization. In the years that followed, the development of a more coordinated program provided the common ground for a group spirit on the part of those who were contributing to it.

The Institute as a Research Center

An important feature of the original plan of the Institute was that all of its research would be centered in an adjoining group of buildings. It was hoped that close physical proximity would provide opportunities for frequent personal contact between staff members and would, therefore, help to make the coordination of research "natural and easy." The Institute building was designed to house four of the five major groups that were merged into its organization in 1929. These groups consisted of the Department of Psychiatry and its residential quarters for patients; the Department of Psychology (and the former Institute of Psychology); the Clinic of Child Development (later reorganized and called the Child Study Center); and certain research projects undertaken by the Social Science Departments of Law, Anthropology, Sociology, and Economics. The Departments of Neuro-Anatomy, Physiology, Psychobiology, Pharmacology, Pathology, and other affiliated medical groups were located in adjoining buildings.

How the Work of the Institute Was Financed

The main financial support of the Institute came from Rockefeller Boards. The initial grant came in part from the Rockefeller

Foundation and in part from the Laura Spelman Memorial. Before the Memorial was merged with the Rockefeller Foundation in 1929, its Trustees authorized its Executive Committee to recommend to the Foundation that \$1,500,000 of its funds be appropriated to Yale for the continued support of the parts of the proposed Institute that were at that time supported by grants from the Memorial, and of the proposed social science section of the Institute. It was understood that the sum would be spent over a period of ten years with annual allocations as follows: Psychology—\$50,000 a year; Child Study—\$35,000; and Social Science—\$65,000. At the same time, the Trustees of the Memorial earmarked an additional \$500,000 for the construction of an anthropoid breeding station and for its maintenance for a period of ten years. It was understood that this station would be set up outside the Institute organization.

In January 1929, the Rockefeller Foundation authorized these appropriations, and made the following additional grants: \$1,500,000 for the Institute building, with the understanding that Yale would provide the land and a fund for maintenance; \$500,000 for the development of psychiatry; and \$500,000 for the care and accommodation of residents under observation in connection with the Institute. It was specified that the last two of these sums would be paid at the rate of \$100,000 a year over a ten-year period. Of the total sums appropriated, \$2,500,000 were available for operating expenses over a period of ten years (\$250,000 a year). Yale's contribution—not counting new buildings for the Schools of Law and Medicine and for the Hospital, but including maintenance of the Institute building, salaries of participating personnel, and research funds from other sources—was estimated at \$100,000 a year.

Before the Rockefeller grants were renewed in 1939, certain administrative changes had been made, whereby the budgets for the Departments of Psychiatry and Child Development were shifted from the Institute to the School of Medicine. After reviewing the program of the Institute in 1937, the Rockefeller Foundation appropriated a lump sum of \$700,000, which, with interest on unexpended balances, gave a liquid research fund of \$80,000 a year for ten years beyond 1939. The University agreed

to supplement this fund with \$20,000 a year from other sources. Separate grants, for shorter terms, were made to the School of Medicine for teaching and clinical work in Psychiatry and for the Clinic of Child Development.

From time to time during the twenty-year period, additional grants were received for special projects. The Josiah Macy, Jr., Foundation gave \$17,000 for the salary and research expenses of a child analyst for three years; the General Education Board sent to the Institute a team of five research fellows to work on methods of studying adolescent development for three years, at a total cost to the Board of \$35,000; the Viking Fund, Inc., gave \$3,000 for an anthropological field study of child rearing and another \$10,000 for a study of neurosis among primitive people; the Motion Picture Association of America and Teaching Film Custodians gave \$25,000 a year for three years for experimental studies of the educational effectiveness of teaching films; and Thomas J. Watson gave \$20,000 for the year 1949-50 to be used in the study of human relations in industry. During the war, the Institute received \$81,700 from the Coordinator of Inter-American Affairs for the preparation of a Strategic Index of Latin America.

How the Institute Was Administered

During the first two years, the affairs of the Institute were administered by an Executive Committee consisting of President Angell, Chairman; Provost Seymour; Dean Winternitz (Medicine); Dean Clark (Law); Dean Cross (Graduate School), who was replaced in 1930 by Dean Furniss; Roswell P. Angier (Psychology); and Donald Slesinger, Executive Secretary ex officio, replaced in 1930 by Mark A. May.

From the beginning of the third year to the end of the sixth year, Deans Winternitz and Furniss acted as Co-Directors. At the beginning of the seventh year the Executive Secretary was appointed Director, and the Executive Committee consisted of President Angell, Chairman; Provost Seymour; Dean Winternitz; and Comptroller Farnum.

When President Angell retired in 1937, the personnel of the Executive Committee, with one exception, was changed from

administrative officers of the University to members of the research staff of the Institute. The membership of this committee was: Mark May, Chairman, Provost Furniss, and Messrs. I. L. Child, John Dollard, C. S. Ford, C. I. Hovland, C. L. Hull, N. E. Miller, and G. P. Murdock.

The main function of the Executive Committee was to encourage and promote research and educational activities that were deemed to be in line with the purposes of the Institute. In the early years, it approved the budgets of departments and divisions supported by the Rockefeller grants, considered research proposals from members of the faculties, and recommended the appointments of the research staff. In later years its functions were advisory to the Director.

Prior to 1935, the funds of the Institute had been allocated annually to the departments and divisions for which they were designated when the grants were received. The head of each of these departments distributed the funds (which were not committed to the payment of salaries of individuals holding tenure appointments) to the directors of laboratories and of research projects. The programs to which the funds were committed were of a continuing character, and the salaries to which they were committed were continuous. Thus it came about that the entire funds of the Institute were committed either to departments or individuals. By 1935 there was no liquid research fund for the support of new projects of an interdepartmental character. This situation was detrimental to the main plan of making the Institute a voluntary association of scientists. There were no funds for the support of work of individuals who later wished to join the group, nor for the support of new projects that might have been more in line with the purposes of the Institute than many of those that were receiving support.

In 1935 steps were taken to change this situation and to clarify relations between the Institute and the University departments. First, a division was made between the funds of the Institute that were committed to the payment of salaries in various departments and those used for the payment of laboratory assistants, secretarial and clerical assistants, and other research expenses. The salary budgets of the Department of Psychiatry and

the Clinic of Child Development were transferred from the administrative office of the Institute to the Dean of the School of Medicine. The salary budgets in the fields of psychology and the social sciences were transferred to the office of the Dean of the Graduate School.

A liquid research fund was set aside for the support of interdisciplinary projects, to be administered by the Director of the Institute and the Executive Committee. This gave the Institute a working fund which was not allocated annually on a fixed basis to divisions, departments, or individuals. It was used to support the projects that appeared to be most promising for the achievement of the main purpose of the Institute—that of developing a unified science of behavior and human relations.

The salaries of a number of research assistants who gave full time to Institute work were paid from this fund. These young people were employed with the understanding that they would participate in a coordinated program which at that time was gradually taking shape. It was the development of this program which led, in 1938, to the renewal of grants by the Rockefeller Foundation for a second ten-year period. After that time, the liquid research fund was administered by the Director. The annual budget was transmitted to the Provost for approval, and decisions concerning budgetary allocations were made by the Director in consultation with members of the research group. The main items in the Institute budget were: salaries of assistants, including the full-time work of secretarial research assistants and part-time graduate students; parts of the salaries of some members of the professional group; full salaries of research assistants who did no teaching; the purchase, maintenance, and care of experimental animals; laboratory equipment and supplies; office supplies and telephones; expenses incidental to preparing manuscripts for publication; an annual contribution to the Medical School Library; and the administrative expenses of the Director's office. All salaries of the Institute group, except as indicated above, were paid from general University funds, and carried on departmental budgets.

An effort was made from the beginning to keep the administrative machinery of the Institute simple and informal. There

was no line of command or hierarchy of committees and boards. Each member of the voluntary association of investigators planned and directed his own research. In various ways the Director of the Institute attempted to keep each member of the group acquainted with the current work of his colleagues; his role as Director was mainly that of an expeditor and coordinator.

Development of an Interdisciplinary Program

When the Institute was organized, it was not possible to foresee how its objectives would be reached, if at all. An enterprise of its scope and magnitude, with no experience or precedent to guide it, was almost certain to require, as Professor Orton of Smith College said, "a few years and a few mistakes to find the right road." Actually it took six or seven years to discover an attainable goal in the right direction—i.e. a unified basic science of behavior—and to find that it could be reached by the development of a scientific theory. The first five or six years may be characterized as a period of confusion and misunderstanding concerning the purposes of the Institute, of enormous diversity of research activities, and of groping in trial and error to find ways of coordinating them.

Misunderstandings of Purpose

Although the purposes of the Institute were stated clearly by its founders, still its activities seemed so unrelated to its aims that considerable uncertainty arose as to what it was really attempting to accomplish. According to President Angell, the Institute was organized to achieve a better understanding of human nature and the social order and to correlate knowledge and coordinate techniques in related fields so as to make greater progress in the understanding of human life from the biological, psychological, and sociological points of view.

This conception of purpose, which stressed the understanding of behavior, is squarely in line with that of pure science. Yet it was widely misunderstood. One source of confusion was newspaper publicity, occasioned in part by the fact that shortly after the Institute was organized, the University entered a fund-raising

campaign for the medical center in which the Institute was located and with which it was affiliated. This center was called the "Human Welfare Group." The fund-raising publicity stressed the practical potentialities of interdisciplinary research on problems of human welfare. Many people both within and without the University were led to think of the Institute as a high-powered social service station, whose great financial and intellectual resources would be devoted to helping social agencies and other welfare organizations find better ways of reaching their objectives.

This misconception of the Institute's major purpose and function was reinforced by the fact that it was operating both a psychiatric and a child guidance clinic and was sponsoring major research projects on juvenile delinquency, unemployment, the sociological structure of the New Haven community, business failures, the administration of justice, the reactions of textile workers to technological changes, the adaptation of Italian immigrants to the conditions of life in New Haven, and the social and economic consequences of automobile accidents. The data for most of these studies were obtained locally, which brought research directors and staff members in daily contact with social agencies, courts, and other community groups.

Even though many members of the staff were very cautious in their public utterances concerning the possible applications of their research to the practical problems of social and government agencies, the belief persisted that the Institute was primarily a social service organization. This was most unfortunate, because it led eventually to the disappointment of many people—and to the disgruntlement of a few—who had great expectations that in a few years the Institute would find better ways of reducing the incidence of juvenile delinquency and mental disease, of preventing divorce and family discord, of reducing the demands on the Community Chest, and so on.

This disappointment might have been prevented, in some measure, had more publicity been given to the long and arduous road that science must travel before its results can be useful in practical affairs. The emphasis that President Angell had given to the need for a better understanding of human nature

and the social order from the standpoint of basic biological and social science was not featured in the headlines (which is understandable, in view of the fact that most American laymen and some scientists are inclined to look with suspicion, if not disdain, on pure science, the practical applicability of which is not apparent). This inclination is illustrated by a story told about the scientist Faraday, who, after giving a demonstration of electric currents to Prime Minister Gladstone, was asked "What use can be made of it?" Faraday replied, "Someday the government will tax it."

Scientists have found that progress in the discovery of basic laws, and in the development of scientific theories, is greatest when research projects are selected and planned from the standpoint of testing a hypothesis or verifying a principle, and not from that of the possible practical utility of the results. It often happens, however, that research which appears to be utterly useless turns out to have great practical value. In such instances the dividends are usually quite large.

Diversity of Research Activities

Another source of confusion, this time on the part of the staff, stemmed from the apparent conflict between the announcement that the Institute proposed to reach its goal of "a better understanding of human nature and the social order" by the "correlation of knowledge and the coordination of techniques" in the biological, psychological, and social fields, and the fact that there was included in the Institute from the very beginning such a wide diversity of unrelated research activities. The first bulletin of the Institute (1931-32) makes the following statement:

Since it is a function of the Institute of Human Relations to bring about a closer coordination of research bearing upon human conduct, all research activities in biological and sociological fields, however independent in origin, conducted by members of the University who have an avowed interest in the aims of the Institute, are properly considered a part of the Institute's research program. Each of these investigations has as its subject some phase of the human personality. And all, even though some are highly specialized, have as an ultimate aim a more exact comprehension of human behavior.

Research activities of the Institute fall roughly into three main groups. The first comprises those that are concerned with the basic mechanisms and processes of behavior and human relations, and with problems of method; second, those dealing with immediate problems of human welfare, such as unemployment, delinquency, and mental disease, problems studied cooperatively by several sciences; third, certain studies that are concerned with specific problems in the fields of law, medicine, religion, education, economics, and government.

This bulletin contains a catalogue of the research interests and current projects of approximately 120 individuals, representing 25 departments. About a dozen of the major projects that were supported wholly by Institute funds were outlined in some detail. Represented in this catalogue were practically all the research activities of the Schools of Medicine, Law, and Divinity, of the biological and social science departments of the University, and of bureaus and branches of the University, such as the Personnel Bureau and the University Department of Health.

This diversity was due, partly but not wholly, to the fact that when the Institute was organized it was understood that the research then in progress by its various divisions would proceed as before. The main reason, however, for including under the tent of the Institute all the research at Yale that pertained to the study of man was the hope that out of it would come, from some quarter, the beginnings of a truly integrated program.

First Attempts to Find Common Ground

The task of achieving a coordinated program was left to the initiative of the staff. The administrative officers attempted to create conditions favorable to interdisciplinary research and tried to keep reminding the heads of departments, clinics, and units, of the Institute's objectives and commitments. One such opportunity was the maintenance of a staff dining room, known as the Blue Room, where lunch was served on Mondays through Fridays during the school year, and where individuals and groups from all parts of the University could meet and talk shop. It was hoped that the Blue Room would provide opportunities for individuals from different departments to become



Members of the Executive Committee of the Institute of Human Relations, conferring in the Chairman's office. From left to right: George P. Murdock, Carl I. Hovland, Clark L. Hull, Mark A. May (Chairman), John A. Dollard, and Clellan S. Ford.



George P. Murdock, presenting a copy of his newly-published *Social Structure* to Mark A. May, IHR Chairman.

acquainted and to learn something about the interests and work of others. The extent to which this opportunity for personal contacts stimulated interdisciplinary research is unknown, but certainly many individuals whose paths might not otherwise have crossed became acquainted with one another in the Blue Room. It was only one factor, however, and perhaps not a very significant one, in bringing about the integration that was later achieved.

The senior staff of the Institute, i.e. the heads of research divisions and units, held monthly dinner meetings in the Blue Room for two years (1932-33). The purpose of these meetings was to acquaint one another with current research, in the hope that suggestions and opportunities for interdisciplinary projects would emerge, or that common ground for cooperative research would be discovered. The meetings were well attended and seemed worthwhile, but they did not lead to the development of a coordinated program of research.

Senior staff meetings were discontinued until the spring of 1935, when the Director of the Institute called a series of conferences to discuss plans for making good the promises to the Foundation concerning the achievements of a coordinated program. Several proposals were discussed. The one that received the most serious consideration was made by Clark Hull. He suggested that the problem of *motivation* had aspects which cut across all the fields then represented in the Institute, and, therefore, might provide the common ground that was being sought. Hull submitted a memorandum outlining a dozen or more appropriate research techniques and about fifty specific research problems. Other members handed in memoranda on what each could contribute to such a project.

This proposal was seriously considered for several months, until it became apparent that a majority of the members of the group were really not interested in it. In spite of a strong desire for the prosperity and continuation of the Institute, and in spite of the good will and scientific tolerance that existed among members of the group, it seemed to most of them to be wasteful, if not utterly futile, to attempt to reorient their work toward the problem of motivation. This happened in the fall of 1935. After

that, no more meetings of the senior staff were called. It appeared quite unlikely that this group would be able to find a common problem, or common grounds for a coordinated program of research, that would receive wholehearted support from all divisions of the Institute.

It is an interesting fact that this group was composed of about twenty eminent scientists, most of whom had won reputations of distinction in their respective fields. One member of the group pointed out that most of them were too old and too well established in their fields to be expected to change their interests and habits of work. The Institute should therefore look to its younger men for the development of an integrated program. This proved to be excellent advice. The integration that was later achieved was developed mainly by younger men, most of whom were of junior rank.

Here is revealed one of the main barriers to any interdisciplinary research that attempts to go beyond the familiar pattern of collaboration between two scientists. The majority of eminent men of science, the ones who often become heads of departments and directors of research units, have won distinction by specialized and independent work in relatively narrow segments of their respective fields. Scientists, like most people, do the things they can do best and from which they derive the greatest satisfactions. It is not surprising, therefore, that most of the members of the senior staff of the Institute kept on doing the kinds of research for which they had been so well rewarded and in which they had acquired great skill.

The Coordination of Techniques

The interdisciplinary work of the Institute during the first few years was mainly at the level of coordinating techniques. Collaborative research, involving the cooperation of two or more persons from different fields, was an established pattern—particularly in the medical sciences. Clinicians frequently work with laboratory scientists. The coordination of data obtained by several techniques is common practice in medical diagnosis.

The conception of interdisciplinary research most prevalent during the early years of the Institute was that of a team of

scientists engaged in the study of a common problem. Some of the first projects were organized in accordance with this notion. The staff of the delinquency study, for example, was composed of psychoanalysts, psychologists, and social workers. Other projects were supervised by advisory committees, each composed of individuals representing several disciplines.

Considerable emphasis was placed on the development of new techniques. In connection with plans for work in psychiatry, two laboratories were organized primarily for the development of diagnostic and therapeutic techniques; one in physiological psychology under Dr. Walter Miles, another in biochemistry under Dr. Edwin Gildea. In the social sciences, a methodological laboratory was set up under the direction of Dr. Dorothy Thomas, for the development of new techniques for observing the behavior of individuals in social situations and for the application of improved statistical procedures to social science projects. The team of research fellows sent to the Institute and the School of Medicine by the General Education Board in 1934 spent the next three years in the collection, critical evaluation, and coordination of methods for studying the growth and development of adolescent children.

The organization of teams of specialists, and the development of new techniques for their use, is no doubt a useful procedure, and often a necessary one, but mainly *after* a field has been cultivated to a point where the problems requiring a multi-science approach are clearly defined. In general, it is most successful at the level of applied science. It follows rather than precedes the development of scientific theory.

The Correlation of Knowledge

(a) *Learning and behavior.* The main groundwork of the theory of learning and of mammalian behavior was laid in nine theoretical papers by Hull, all written before 1936. In the first paper (Hull 1929), published in the year the Institute was organized, Hull pointed out the adaptive significance of the innate mechanisms of conditioning discovered by the Russian physiologist, I. P. Pavlov, and his followers. In so doing he joined together two different theories of behavior—that of “re-

flexology" and that of "functional behaviorism." The latter had been developed by John Dewey, J. R. Angell, E. L. Thorndike, and other American psychologists. The two psychologies were in sharp conflict on the issue of mechanism versus vitalism, or purpose. Reflexology insisted that the behavior of organisms is essentially mechanical; the other view held that it is instrumental or purposive.

Hull showed that there is really no fundamental inconsistency in these two views. The various mechanisms of conditioning, "operating jointly, thus stand revealed as an automatic trial and error mechanism which mediates, blindly but beautifully, the adjustment of the organism to a complex environment" (Hull 1929: 498).

In the eight papers that followed, from 1930 to 1935, Hull outlined the basic ideas and developed the scientific methodology that laid the foundation of his general theory of mammalian behavior. In one article he showed that twenty empirical generalizations about simple trial-and-error learning could be arrived at by deduction from certain basic principles found in the work of Pavlov on conditioning and in that of Thorndike and others on animal learning. In further papers, he indicated how a wide range of facts about more complex forms of learning, involving purpose, incentive, foresight, and reasoning, could also be forecast from a knowledge of basic laws. Of particular interest and value for the later work of the Institute were the ideas he advanced concerning the underlying mechanisms involved in purposive and creative behavior. He showed that a mechanistic conception of behavior is adequate to account for the fact that human behavior is characteristically purposive, willful, creative, and guided by ideas.

In one of the later papers, he proposed a concise scientific test for a dozen or more conflicting theories of learning and behavior which were current in psychology at that time. The test is the number and range of verifiable facts that are logically consistent with theory. "In general, that science is most perfectly systematized which can show the greatest proportion of its phenomena as logically deducible from recognized principles and other known phenomena" (Hull 1930: 241).

By 1936, Hull had developed two related scientific systems. One was his general theory of mammalian behavior, first published in brief outline in 1937 and in full in 1943 (see references: Hull 1937, 1943). The related system pertained to rote learning in human subjects (Hull et al. 1940). It illustrated the logical rigor that can be achieved in the development of learning theory, and also showed that facts about human learning can be deduced from the same principles that apply to animal learning.

The work of Hull and his students that was done between 1929 and 1936 influenced later developments in two ways. First, it laid the foundation of a theory of learning and behavior; second, it demonstrated the value of scientific theory as a methodical procedure for achieving a comprehensive and unified social science.

(b) *Personality development.* The psychoanalytic theory of personality development and the dynamics of behavior had been well developed before the Institute was organized. It had not, however, become academically respectable. It was introduced into the Institute by John Dollard, who came to Yale from the University of Chicago in 1930. His first assignment was to Professor Edward Sapir, in connection with a seminar on personality and culture sponsored by the Social Science Research Council. In the year following, Dollard became a member of the Institute's staff.

Before coming to Yale, Dollard had spent a year at the Psychoanalytic Institute in Berlin on an S.S.R.C. Fellowship. There he received training analyses under Dr. Hahns Sachs. He was convinced that the best available scientific approach to the problem of personality development, and to the understanding of the relation between society, culture, and behavior, was to be found in psychoanalytic theory. He therefore began a series of studies which led not only to the further development and modification of the theory but also to its interrelation with Hull's principles of behavior, on the one hand, and with social structure and culture, on the other.

Although the original plans of the Institute called for inclusion of the psychoanalytic approach to the study of human relations, no appointment of a professional analyst was made

until the fall of 1935. Some members of the staff, however, had received training in psychoanalysis—John Dollard (as mentioned above), and Doctors Van Emery, Putnam, and Begg. At that time (1935) Earl Zinn was a member of the research staff at the Worcester State Hospital and was engaged in recording, for the first time, psychoanalytic interviews. Never before had the “raw data” on which psychoanalytic theory is built been recorded and preserved for scientific study. Zinn joined the staff of the Institute in November 1935 and brought with him his records and his recording instruments. The patient with whom he was working at the time was transferred to the Psychiatric In-Patient Clinic in the Institute. The complete record of this patient’s life as revealed by psychoanalytic interviews is a document of about 2,000 typewritten pages. It has not been printed, but is on file at Yale for inspection by competent scientists. In addition to recording life history documents, Zinn conducted an informal seminar in psychoanalytic theory and gave training analyses to members of the staff and to graduate students.

A first successful step toward the development of a unified science of behavior occurred in 1935-36, when Hull, Dollard, Zinn, Miller, and others undertook a systematic exploration of psychoanalytic theory from the standpoint of learning theory. Prior to that time, Hull had been conducting a weekly seminar on learning theory. It was known as the Wednesday Evening Seminar and was open to graduate students and junior staff members in psychology. During the greater part of the year 1935-36, the meetings were devoted to the systematic presentation of psychoanalytic concepts, with a view to relating them to Hull’s theory of learning and behavior. Hull was interested in finding out whether or not any of the basic generalizations in psychoanalysis could be deduced logically from principles of behavior and learning theory. If not, then he wanted to determine in what respects behavior theory should be modified or extended.

The meetings were open to all members of the Institute group and were well attended. The discussions stimulated considerable interest in psychoanalysis on the part of those who were unfamiliar with it and had misconceptions of its significance for

the understanding of behavior. The leaders of the meetings were convinced that psychoanalysis and stimulus-response psychology were not mutually incompatible, as some had formerly supposed.

Some members of the group began work on promising leads that had emerged from the discussions. O. H. Mowrer, for example, worked on the problem of anxiety. Beginning with the assumption that all fears, in humans at least, are learned, he developed the hypothesis that fears are conditioned responses based on pain and that anxiety is a secondary or acquired drive, the reduction of which is an agent of reinforcement.

A major difficulty encountered in attempting to correlate psychoanalytic theory with Hull's theory of behavior was that the former was not stated formally in terms of precise definitions, postulates, and theorems, as was the latter. A first step seemed to be to formalize psychoanalytic theory, or at least some part of it. This was started in 1935-36 by a group of scholars who became interested in the problem of reactions to frustrations. The Freudian hypothesis that aggression is produced by frustration was stated more precisely and quantitatively in this form—"the strength of instigations to aggressions varies directly with the amount of frustration." Then certain conditions or factors that were assumed to determine the amount of frustration were postulated. To complete the system, other postulates were needed for the factors that inhibit aggressive action, and for those that determine the object toward which aggression is directed. Thus a miniature scientific system was set up and tested by a wide range of facts. Later it was shown by Miller and others that some of the postulates in this system can be derived from more general—i.e. more basic—principles, some of which are contained in Hull's theory of mammalian behavior. It was by this general procedure that scientific progress was made in fitting together two of the essential parts of a comprehensive theory of social behavior.

(c) *Social structure and culture.* The story of how social structure and culture were tied in with learning theory and psychoanalysis is somewhat more complex. Part of the story begins with Hull's Wednesday Evening Seminars. In the year following the discussions of psychoanalysis, several sessions were devoted

to presentation and discussions of well-known social theories, including those of Pareto, Marx, MacDougall, and Sumner, Keller, and Davie. Here again, the interest was in the possibilities of relating the cultural ideas and empirical generalizations found in these theories to principles of behavior. The work of Sumner and Keller appeared to be most promising. Of particular interest was Keller's theory that culture and social structure are functional—i.e. instrumental to the basic needs of man—and that social evolution is a kind of mass trial-and-error learning which results in adaptive changes in social institutions.

Although Sumner, Keller, and Davie's four volumes on *Science of Society* (1927) were published two years before the Institute was organized, five or six years passed before their influence on the Institute's program was felt, Professor Keller having never joined the Institute group. In 1934, one of Keller's ablest students, G. P. Murdock, was attracted to the Institute by a paper written by John Dollard, entitled "Musings on Sumner and Freud," in which some rather remarkable points of similarity in the theories of these two men were pointed out. Dollard predicted that their basic ideas about human behavior would be eventually blended together and in conjunction would provide an essential part of the foundations of a unified social science. Intrigued by the possibilities suggested in the paper, Murdock set out to learn psychoanalytic theory. From that time on, he played a leading part not only in the unification of Sumner and Freud but also in the development of the more comprehensive theory of social behavior. Later C. S. Ford and J. W. M. Whiting, both students of Keller, joined the Institute group and made important contributions to its major achievements.

The work of the Institute in relating social structure to psychoanalytic theory was influenced by the work of Lloyd Warner and his associates on the class structure of society in modern communities. These studies were in progress from about 1933 to 1937 and were followed closely by members of the Institute group. Dollard saw a possibility of relating the concepts of social class and social mobility to certain aspects of psychoanalytic theory—particularly to the part that deals with aggression. In the summers of 1935 and 1936, he did an intensive study of the

class and caste structure of a southern town, with special attention to the relations between social structure and aggressive behavior. The resulting volume, entitled *Caste and Class in A Southern Town* (1937), represents the first strong link ever forged between social structure and psychoanalytic theory.

(d) *Cultural anthropology* had been strongly represented in the Institute from its beginning. Clark Wissler came to Yale as a member of the Institute of Psychology in 1925. Although Wissler was one of the first American anthropologists to introduce the concept of culture, his major contributions were factual. Much of his work was guided by the hypothesis that cultures are related to geographic backgrounds, and that cultural elements are regionally distributed.

In 1930, Edward Sapir came to Yale as Chairman of the newly organized Department of Anthropology. Sapir had two basic interests: one was linguistics, and the other was personality and culture. He was one of the leaders in the personality and culture movement, which later influenced the work of the Institute. Being familiar with both psychoanalytic theory and cultural theory, Sapir saw that the two are necessarily interdependent. In 1932-33, he conducted a seminar on personality and culture, the members of which were selected to represent several of the contemporary cultures of the world.

The study of culture became an integral part of the Institute's program, largely through the work of Murdock and Dollard in the earlier years and the supporting work of Ford, Whiting, and Malinowski in the later years. Dollard's main interest was in the problem of the impact of culture on personality development. His first major contribution was his book on *Criteria for the Life History*, published in 1935. His seven criteria, which were formulated as guides to research, constitute a framework of ideas concerning how cultures mold biological organisms into personalities. These criteria have turned out to be basic ideas essential for the evolution of a scientific theory of personality development.

A crucial link between the principles of learning and the social and cultural conditions under which they operate was forged by Miller and Dollard in their book *Social Learning and Imitation* (1941). They emphasized and illustrated how the principles

of learning operating under the conditions of social life produce social habits. For a long time, imitation had been regarded as an important means of culture transmission and diffusion. On analysis it turns out to be a complex affair. Imitation is not an innate behavior pattern in human beings, but is instead learned under specific conditions. By studying how certain conditions produce habits that facilitate further learning, the interdependence of the principles of learning and the social maze is revealed.

In 1937, about a year and a half after he joined the Institute group, Murdock initiated the cross-cultural survey which is now the Human Relations Area Files. He had in mind two main purposes: one was practical, the other theoretical. The practical purpose was to save time in digging out the answers to questions which were being put to the anthropologists by other members of the group. The fact that physiologists, psychologists, and psychiatrists were looking to anthropologists and sociologists for answers to some scientific questions was in itself an indication of progress toward the Institute's goal. The theoretical purpose was that of testing scientific theories of culture and social organization. Murdock was convinced that the time had come when anthropologists could make good use of scientific theory. Ethnographers had collected and published a very large quantity of descriptive data on hundreds of societies. In collecting these data, field workers did not, as a rule, have in mind testing any theory or hypothesis, but rather sought to obtain unbiased accounts of the manner and means of life of a society. As a first step toward the development of a science of culture, Murdock proposed that all existing information on a representative sample of societies of the world be collected and organized in a manner that would facilitate quantitative tests of tentative generalizations and hypotheses.

Integrative Activities

The activities by which learning theory, psychoanalysis, culture theory, and social structure were gradually joined together into a single scientific system were largely of an educational character. One educational device was the Monday Night group. For three years during the mid-thirties, this group met every

week at the Institute and functioned as a mutual education society. The members took turns teaching each other. One entire year was spent on each of three fields—learning and behavior theory; psychoanalysis and psychiatry; social structure and culture. The main concepts, principles, methods, and illustrative data of each were presented informally, and discussed critically. Particular attention was paid to points of overlap among the three fields.

For graduate students and staff members who desired more training in these fields, special seminars were organized. Miller led a seminar in learning theory for nonpsychologists; Ford offered one in society and culture for psychologists, psychiatrists, and others; and Zinn conducted one in psychoanalytic theory.

In addition to the Monday Night meetings and the informal seminars, private tutoring in psychoanalysis was given to a few individuals. Those who are able to use psychoanalysis most effectively, in both research and therapy, agree that the best way to learn it is by taking a “training analysis.” Since this training requires several sessions a week for a year or more, and since only two members of the group (Dollard and Zinn) were competent to give it, the opportunity was limited to not more than three students or staff members a year. From 1936 to 1941, about a dozen individuals received intensive analytic training. Approximately two thirds of these were graduate students.

A considerable amount of unscheduled mutual instruction occurred between two or more individuals in respect to each of the four main fields. After numerous points of contact had been established, and areas of common ground discovered, the number of problems of mutual interest multiplied rapidly.

Major Accomplishments

It will be recalled that: “The Institute was designed to achieve two principal ends: first to carry on research upon the basic problems of human nature and the social order, and second to train skilled personnel in these fields.” To what extent were these objectives accomplished before its activities terminated early in the 1950s?

Before turning directly to the accomplishments of the Insti-

tute, it seems in order to say something about why it failed to survive as an integral part of Yale University. There were many contributing factors, no doubt, but the basic problem was that the University administration frowned at that time upon all those parts of the University which did not fit into the formal structure of departments and schools. As a consequence, the Institute was phased out of existence, and its personnel either left for positions in other universities or were fully absorbed by regular departments and schools at Yale.

Perhaps the most important contribution of the Institute with respect to research consists of the lessons learned about how an interdisciplinary program can be achieved. The problems of human behavior and the social order upon which research was conducted at the outset were mainly practical problems of social life in our society, such as mental health, juvenile delinquency, crime, unemployment, residential mobility, and the like. During its first five years a major portion of the resources of the Institute were devoted to these problems. Teams of investigators sought to solve these problems through a coordination of techniques. The approach proved fruitful, however, in only one instance, namely in the study of delinquency (Healey and Bronner 1937).

After this experience, it was appreciated that the finding of better solutions to persisting practical social problems was dependent upon the development of a more unified and comprehensive theory of human behavior. Solutions to practical problems require human engineering based upon the application of scientific principles in a wide variety of existing conditions. Accordingly, the resources of the Institute were from that time on primarily devoted to the task of developing a basic science of human behavior and social life. By so doing, important contributions were made to better understandings of practical social problems such as juvenile delinquency, psychotherapy, cultural conflicts, child rearing, and education, as evidenced by the fact that some of the most widely used publications of the IHR on these problems are still in print (see Child 1943, Dollard et al. 1939, Dollard and Miller 1950, Healey and Bronner 1937, Miller and Dollard 1941).

The lessons learned from the Institute's experience in achieving an interdisciplinary program coordinated by common ideas may be summarized briefly as follows: First, scientists from different fields cannot work effectively with each other until they discover which parts of their various fields seem to converge most naturally on a problem of common interest. Second, they must take the time and trouble to learn from one another the essential facts, methods, and ideas that bear on the common problem. This is not an easy task, particularly for older men who have won distinction and reward for highly specialized and segmental research. Third, the members of the group must be willing to pool their ideas freely, to develop new ones jointly, and to feel free to draw on the common pool in the planning and publication of their research. (At the same time, the conventional courtesies of accreditation should be observed.) Fourth, they must have confidence in each other's scientific integrity and respect for methods, skills, and abilities other than their own. This is a necessary basis for the frank and oftentimes brutal criticism on which science thrives. Men who cannot take and give criticism objectively, and who cannot utilize the frustrations that criticism engenders for the improvement of their work, cannot participate effectively in a cooperative program. Fifth, each member of the group must always be entirely free to plan and publish his own work, either individually or with others. It is not necessary that he should agree with his colleagues on points of method or interpretation. On the other hand, it is important that he be guided in his work by a commonly accepted, basic set of ideas. Sixth, there should be available a liquid research fund for support of projects of interest to two or more individuals who are identified with different departments.

The key to the success of the Institute is found in the reciprocal education of members of the group, together with the discovery of certain basic principles which have proved to be the common denominators whereby facts about behavior derived by several disciplines may be added up to better understandings of human nature and the social order.

The major accomplishments of the Institute in terms of training and research are to be found in the careers and publications

of those who participated in its development. The following list of publications, which is by no means complete and exhaustive, tells the basic story of what the Institute accomplished more eloquently than any summary that might be appended here.

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